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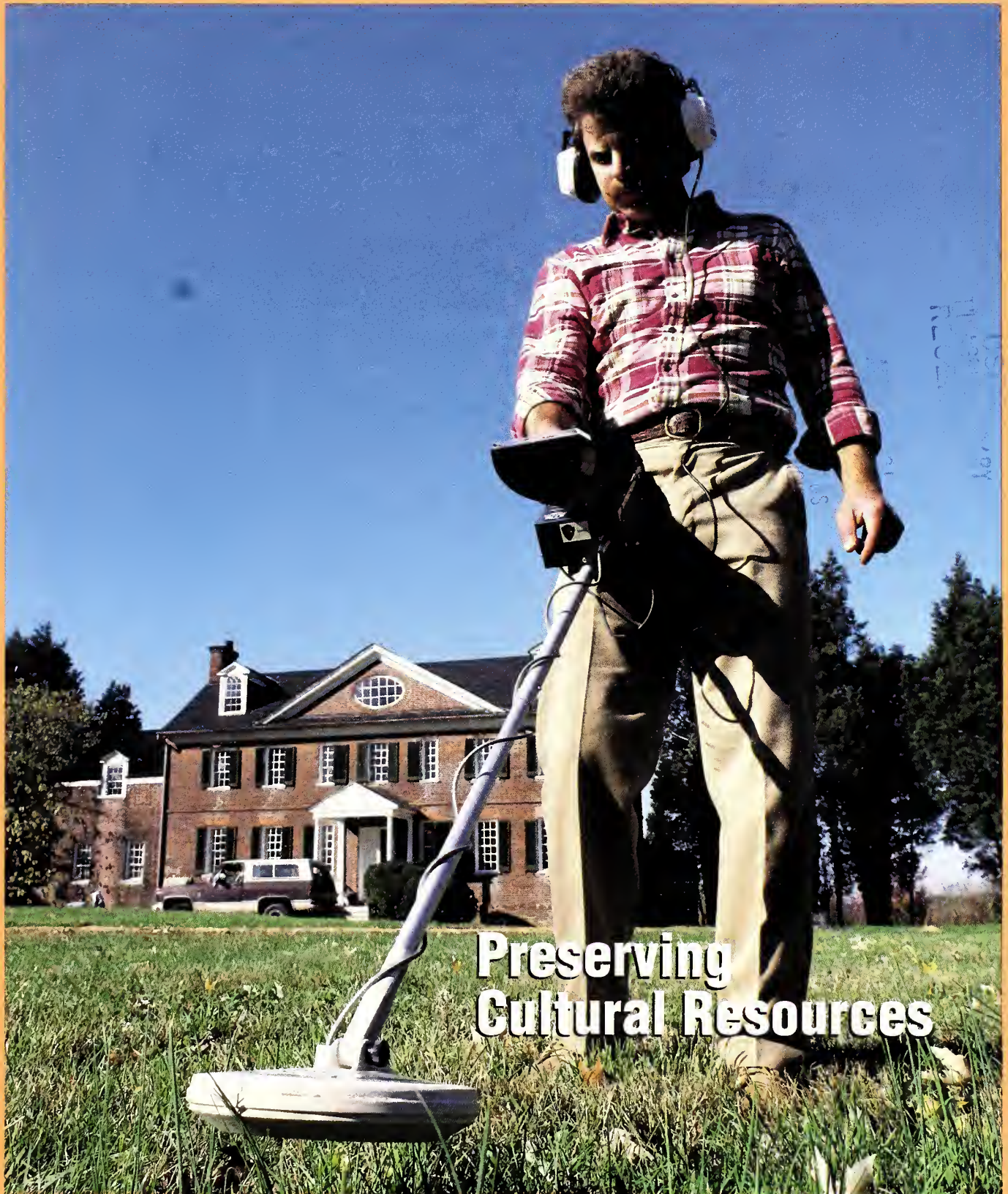
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**Preserving
Cultural Resources**

Cover: Harmony Hall in Prince Georges County, Md., was the site for a trial run when the Soil Conservation Service tested various remote sensing methods as cost-effective ways to locate hidden cultural resources. (Tim McCabe photo)

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Edward Madigan
Secretary of Agriculture

James Moseley
Assistant Secretary
Natural Resources and Environment

William J. Richards
Chief
Soil Conservation Service

Henry Wyman
Director
SCS Public Information Division

Leslie Jane Wilder
Editor

Paul DuMont
Mary Jo Stine
Associate Editors

Klm Berry-Brown
Ted Kupellian
Contributing Editors

Chris Lozos
Design Consultant

Magazine Inquiries
Send inquiries to: The Editor, *Soil and Water Conservation News*, Public Information Division, Soil Conservation Service, U.S. Department of Agriculture, P.O. Box 2890, Washington, DC 20013-2890.

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Comments from the SCS Chief:

The View from Washington, D.C.

It is a most interesting experience for me to see the progress of the 1990 farm bill from the point of view of the Soil Conservation Service national headquarters.

The new farm law, in concert with the 1985 farm bill, reflects the American public's impatience with policies that, in effect, subsidize erosive farming practices. Congress has assigned SCS responsibility for high-quality, environmentally responsive conservation work. It is our responsibility to implement the farm law, and our desire to help farmers and ranchers comply with it.

I believe that, legislation or no legislation, every farmer has a duty—even a moral obligation—to use the most cost- and energy-efficient, soil conserving practices that economics and technology allow. I believe that most erosion problems out there are very manageable.

I also believe strongly in conservation tillage as a vital technology that is as good for the farmer as it is for the environment. Of course, it isn't the answer to every problem, but it is the first technology a farmer should consider for soil and water conservation. Even if the solution isn't conservation tillage, other practices such as contouring, cover crops, stripcropping or terracing—perhaps along with conservation tillage—can help reduce erosion.

For some, compliance means little, if any, change in their operations. But for others, the change is significant. Farmers who have unfamiliar practices built into their compliance plans ought to be trying them out as soon as possible so that they have time to make corrections, if needed.

And remember, the plans must be implemented on schedule. We expect farmers and ranchers to seek our assistance. We are well trained and highly skilled, and we're accessible—we have a presence in offices all over the country. We must succeed in helping farmers get the job done.

This country operates on the honor system. We intend to honor our obligations, and we expect farmers and ranchers to do the same. The American public has every right to expect farmers to take the compliance plans they signed just as seriously as they do any other legal form.

The provisions of the law will be responsibly enforced. We will be equitable and consistent in carrying out the law, recognizing the dynamics and complexity of agriculture today.



Chief

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Overview

The 1990 Farm Bill

THE 1990 FARM BILL — known as the Food, Agriculture, Conservation and Trade Act — was signed into law on November 28, 1990.

The bill's Conservation Title — known as the Conservation Program Improvement Act — is primarily an extension of, but has several major differences from, the 1985 farm bill. Conservation provisions of the 1990 bill target the most highly erodible land and environmentally sensitive lands, including wetlands, marginal pastureland, and areas that affect water quality. Key changes include:

- Graduated penalties have been established for unintentional violations of conservation compliance. Producers are allowed one violation in 5 years, with a reduction in benefits of \$500 to \$5,000, depending on the severity of the violation. Previously, a first-time violator lost eligibility for most USDA program benefits.
- Loss of program benefits has been extended to include the Agricultural Conservation Program, Great Plains Conservation Program, Energy Conservation Program, PL-566 Watershed Program, and Disaster Assistance Programs.
- The trigger for "swampbuster" is now the act of draining, dredg-



ing, filling, leveling, or otherwise altering wetlands to produce an agricultural commodity. Producers are allowed one violation in 10 years, with a reduction in benefits of \$750 to \$10,000 depending on the severity of the violation.

- A new "umbrella" program, the Agricultural Resources Conservation (ARC) Program, includes the Agricultural Water Quality Protection Program (AWQPP), the Environmental Easement Program (EEP), and the Environmental Conservation Acreage Reserve Program (ECARP), which is comprised of the Conservation Reserve Program (CRP) and a new Wetlands Reserve Program.

- An Integrated Farm Management Program Option is designed to as-

sist producers in adopting integrated multiyear, site-specific farm management plans by reducing farm program barriers to resource stewardship practices. The goal is to enroll 3 to 5 million acres. Duration of contract with the producer is 3 to 5 years, with renewal possible. Plans will be developed to provide for resource-conserving crop rotations, such as legumes, legume-grass mixtures, legume-small grain mixtures, legume-grass-small grain mixtures, and alternative crops.

Following is a comparison of major conservation provisions of the 1985 and 1990 farm bills.

The Conservation Title (XIV)

1985 Farm Bill: The Food Security Act

Conservation Reserve Program (CRP)—Program established with an enrollment goal of 40 to 45 million acres of highly erodible land for the 1986 through 1990 crop years.

Farmers receive cost-sharing for putting the land into protective cover such as grass or trees.

Goal is one-eighth of enrolled acres be devoted to trees.



Swampbuster—To discourage conversion of wetlands for agricultural crop production, anyone planting crops on wetlands converted after December 23, 1985, is ineligible for most USDA farm program benefits.

Trigger for violation of provision is planting crops on wetlands.

1990 Farm Bill: The Food, Agriculture, Conservation and Trade Act

Environmental Conservation Acreage Reserve Program

Includes the Conservation Reserve Program (CRP) and a new Wetlands Reserve Program (WRP).

Will enroll 40 to 45 million acres.

CRP—Eligibility for program broadened; 1 million acres a year reserved for 1994 and 1995 enrollment.

Existing CRP contract in vegetative cover may be converted to hardwood trees, windbreaks, or shelterbelts and extended to 15 years.

Land already under a CRP contract can be restored to wetland and entered into the Wetlands Reserve Program if it was previously converted wetland.

Producers who put land into new CRP contracts cannot bring any new highly erodible land into production without being in violation of their contract.

Land areas where producers use practices such as grass waterways, windbreaks, shelterbelts, contour strips, and terraces are eligible for enrollment in the program.

WRP—New program; to enroll 1 million acres.

Participant agrees to implement a wetland easement conservation plan developed by SCS in consultation with the U.S. Fish and Wildlife Service.

Crop base permanently retired on land entered into program.

Swampbuster—Graduated penalty for first time, unintentional violations. Producers allowed one violation in 10 years. Reduction of benefits of \$750 to \$10,000, depending on the severity of the violation. For unintentional violations, graduated penalties are retroactive to December 23, 1985.

The law extends loss of benefits to additional conservation programs, including CRP, Environmental Easement Program, Disaster Assistance Programs, the Agricultural Water Quality Protection Program, the Agricultural Conservation Program, the Energy Con-

(Continued on page 6)

(Continued on page 6)

1985 Farm Bill *(from page 5)*

Sodbuster—If farmers convert highly erodible rangeland or woodland for crop production, they must immediately implement a conservation system on the land to stay eligible for most USDA farm program benefits.

Conservation Compliance—To stay eligible for many USDA farm program benefits, farmers must have developed a conservation plan for their highly erodible fields by December 31, 1989, and must be using the conservation system described in that plan by December 31, 1994.

The Soil Conservation Service provided assistance in conservation planning to 1.7 million landowners and units of government.



1990 Farm Bill *(from page 5)*

servation Program, and the PL-566 Watershed Program.

Trigger for violation of provision is the act of clearing, draining, or otherwise altering wetlands to make planting possible.

Sodbuster—Violators of this provision will be ineligible for expanded list of USDA programs, including conservation programs.

Supersodbuster—Prohibits producers with new CRP contracts from bringing newly purchased highly erodible land into production without losing eligibility for USDA program benefits.

Conservation Compliance—Exemption for non-commercial agricultural crops on areas of 2 acres or less.

Graduated penalties established for unintentional violations; fines of \$500 to \$5,000. Producers allowed one such violation in 5 years.

For violation, loss of eligibility for USDA benefits extends to conservation programs listed above.

For highly erodible land (HEL) coming out of expired CRP contract, 2 years allowed to implement conservation plan if structures are required in the plan.

Conservation compliance extended to HEL on set-aside acres.

Restrictions eased on tenants when landowners refuse to comply with plan.

Annual payments not to exceed 10 years. Maximum is the lesser of either \$250,000 or the value of the land without an easement.

Agricultural Water Quality Protection Program—New program; enrollment goal of 10 million acres.

Three- to 5-year agreements (water quality plans) with owners and operators.

Incentive payments of up to \$3,500 per year. Cost-share set at \$1,500 per contract.

Cultural Resources

Protecting The Future... And the Past

WHEN THE PHONE rings in Diane Gelburd's Washington, D.C., office, it may be a call to go back in time.

As Soil Conservation Service historic preservation officer, Gelburd monitors soil and water conservation activities that might disturb archeological and historic sites. In 1986 she received USDA's Distinguished Service Award for her leadership of the SCS cultural resources program; she has been with the agency for 10 years.

Gelburd works for closer relationships between the archeological community and the agency's soil conservationists and assists with SCS erosion control projects conducted near historic landmarks.

"By law, Federal agencies are responsible for protecting archeological and historic resources that may be affected by their activities," Gelburd remarked. For SCS, the issue sometimes arises when staffers help farmers and ranchers carry out soil and water conservation practices—such as building ponds and terraces.

In spring 1990, SCS received the John Wesley Powell Award for the

best historic preservation program. The award—from the Society for History in the Federal Government—praised the agency's "innovative" cultural resources management training program.

"We're training SCS field staff to meet our cultural resources responsibilities," Gelburd remarked. Over the next 5 years, all SCS field personnel will take the agency-developed training program.

"We designed it to be flexible, self-paced—and fun," Gelburd said of the program. "Each training module takes less than an hour, including looking at a slide show and using a workbook. It's the kind of thing a person in a field office can pull out on a rainy or snowy day."

Six training modules explain the importance of cultural resources

(mainly archeological and historic resources), how to identify those resources and have cultural resources specialists evaluate them, and how to mitigate adverse effects on them.

A seventh module on early American history and prehistory is tailored to the geographic area where the employee is based. Nine versions of this module are being prepared—for California, the Hawaiian/Pacific Islands, the Pacific Northwest, the Arctic, the Plains, the Southwest/Great Basin, the Midwest, the Northwest, and the Southeast. A Northeast version has been completed.

Michael Kaczor, SCS archeologist who directs the training project, credits field testing and the work of the agency's employee



SCS soil scientist Jim Doolittle makes a point about the ground penetrating radar printout of an Illinois earthen mound. (Kay Kitchen-Maran photo)

Preserving Cultural

development staff for the program's popularity.

"We tested the modules in six field locations," Kaczor said. "We were hitting the target most of the time. Thanks to the feedback, we added more bull's-eyes."

Among the training innovations are a computer game called Digkit and a "hands-on" workshop, conducted by a cultural resources specialist, where soil conservationists learn to identify artifacts and features that show cultural resources may be in the ground.

"Now SCS is using space-age technology, like global positioning systems, visual image processing, and ground-penetrating radar, to give maximum assistance on projects," according to Gelburd.

Jim Doolittle, a soil scientist at the SCS Northeast National Technical Center, works on ground-penetrating radar projects. He believes the radar "is a great tool shared by all the agency's disciplines. For instance, it's been used in studies of lake sedimentation and dam site integrity."

"Using the radar, I'm involved in three or four archeological investigations a year," Doolittle added. Last year, he dragged the radar on a wooden sled across a mysterious mound in an Illinois park. Echoing back, the radar's electromagnetic impulses were recorded on instruments that resemble a seismograph.

"The radar could penetrate deep in that mound because the soil was a coarse-textured sand," Doolittle reported. The pattern of dark spots produced on the graph revealed underground objects or areas of unsettled earth to a depth of



Jim Doolittle probes an area that was identified by Duane Esarey (kneeling), archeologist with the Dickson Mounds Museum, using an earlier radar profile. (Kay Kitchen-Maran photo)

12 to 13 feet and proved the mound was made by humans. It was built by Indian village-dwellers along the Illinois River around the year A.D. 200, according to estimates.

Because of its pioneering work, SCS has been asked to help with police investigations and has aided the search for human remains. In Hawaii, the radar has located prehistoric burials on proposed development sites.

Whenever possible, SCS has urged that historic resources be adaptively reused; these have included a mill and a barn.

"We have three goals for the cultural resources program," Gelburd summed up. "We want to ensure that significant cultural resources are not inadvertently destroyed by conservation activities carried out with SCS assistance. We want to help scientists obtain valuable environmental and other information from archeological sites. And, we

want to use our knowledge of cultural resources to aid rural development and solve current problems."

As an example of the latter, Gelburd told how SCS and other agencies helped a New Mexico rancher on a Navajo reservation provide a dependable water supply for his livestock.

The rancher combined an age-old method of collecting runoff water from rock surfaces with modern technology to develop a rain catchment basin and water storage tank.

By protecting evidence of the past, SCS is ensuring that archeological and historic resources are preserved for the future.

Diana Morse, public affairs specialist, SCS, Washington, D.C., and **Mary Jo Stine**, associate editor, *Soil & Water Conservation News*, SCS, Washington, D.C.

Resources

Cooperation Saves Indian Mounds

VALUABLE historical information about the early inhabitants of Minnesota was eroding along with the soil at Indian Mounds Park along Knife Lake near Mora, Minn.

Erosion was quickly removing the slopes that protected the Native American burial mounds from the lake. While the lake level was drawn down for a rough fish kill, the archaeological site was above water, accessible to equipment and people, and rock could be placed on the shore to protect the historical artifacts.

The Knife Lake Improvement District sought help to solve this problem. Don Benrud, former Onanegozie resource conservation and development coordinator, put them in touch with the Soil Conservation Service.

Greg Nikodym, Kanabec County's engineer, agreed to provide use of the county's equipment and maintenance crew. He also recruited prisoners from a nearby penal institution who could reduce their sentences through community service. These men, in addition to the maintenance crew members, provided the labor for the placement of the geotextile that prevents the soil from moving through the riprap (a layer of broken rock or similar material that resists erosive forces of flowing water or wave action).

Paul Hoppe from the Minnesota Department of Natural Resources prepared the way for obtaining the

necessary permits. He also contacted farmers near the site and asked them to donate rock piles from their fields. The landowners agreed to do so if the county would do the removal. Hoppe received about 1,500 cubic yards of riprap for the job.

An unusually snowless November and December in Minnesota allowed the project to be completed before the lake level rose again or was covered with snow. Cold temperatures solidified the soft lakebed areas so that the work could be done.

SCS technicians Bob Williams and Dennis Will completed the survey. An SCS hydraulic engineer designed the protection, issued plans and specifications in 1 week, and beat the deadlines imposed by the weather and the rising lake level. Jim Dusek, SCS area engineer, reviewed and monitored the work. Benrud obtained a special projects grant from the State of Minnesota to cover the cost of the geotextile.

The design took into consideration that no excavation could be done for fear of disturbing valuable artifacts. From start to finish, the project took about 2 months to survey, design, and install 900 linear feet of shoreline protection.

Sonia M. M. Jacobsen, hydraulic engineer, SCS, St. Paul, Minn.



Riprap is used over geotextile along Knife Lake to protect Indian Mounds Park from eroding. (Sonia M. M. Jacobsen photo)

Preserving Cultural

Prehistory Of Dam Site Explored

SOIL CONSERVATION Service Engineer Terry Fairbanks says he thinks of the seventh and last dam of the Wheeling Creek, W. Va., project as “the reluctant bride that finally came to the wedding.” In line with that thinking, SCS gave the “bride” something old, recovery of ancient artifacts; something new, moving the proposed site downstream to a new location; and something blue, an adjoining 31-acre pool of blue water.

Fairbanks is the SCS engineer in charge of planning the dam. He re-



Working on the site of the final dam of the Wheeling Creek project, archeologists erected a pole structure to hang a box and sift through the soil for artifacts. The structure is similar in design to primitive shelters once used on the same site. (Lynn Shutts photo)

calls joining the Wheeling Creek Watershed Project in 1965, when planning began for seven dams; the first six have been built.

High cost, difficulty of acquiring land rights, and other concerns had delayed building the last and largest dam of the Wheeling Creek

project. After November 1985—when the creek flooded and caused \$21 million in damage in the city of Wheeling—local sponsors, working with SCS, revived their plans.

Before the construction startup, archeological and historical information is being unearthed from the new dam site. Cultural resource features discovered in the area are mapped as to location and recorded. Estimating from preliminary investigations, some 50,000 prehistoric artifacts will be found and cataloged.

“Two archeological sites, eligible for listing on the National Register of Historic Places, are being excavated,” according to Lynn Shutts, SCS environmental special-



Archeologists under contract to SCS search for the location of an Indian village of 16 centuries past on the future construction site of the final dam of the Wheeling Creek project. (Lynn Shutts photo)

Resources

ist and cultural resources coordinator in West Virginia. "The data we recover will increase our knowledge of the lifeways of the prehistoric people who lived in the watershed."

Shutts already knows that the 1-acre area called the Saddle Site was probably occupied from A.D. 1150 to 1400. Nearby, the 1.5-acre Bluebird Site has yielded pottery fragments, projectile points, and evidence of cooking and storage pits radio-carbon dated to about A.D. 400. A small village occupied the site.

Besides the SCS investment of time and funds in the dam, the Wheeling Creek Watershed Commission, the West Virginia State Soil Conservation Committee, and the Appalachian Regional Commission contributed funds. The Columbia Gas Corporation aided the project by consolidating its natural gas lines in the dam area.

Construction should be completed in 1995; a 3-acre wetland will be made atop the leftover rock waste. SCS planners expect the dam to reduce the water level of the 100-year flood by as much as 5 feet along Wheeling Creek and provide a benefit to cost ratio of 1.8 to 1.0. The overall project has a benefit to cost ratio of 5.1 to 1.0.

Mary Jo Stine, associate editor, *Soil & Water Conservation News*, SCS, Washington, D.C.

Reverence for the Earth: Values of a Native American

Preserving cultural resources encompasses more than just tangible resources. Traditional cultural values should also be preserved when beneficial to humanity and the environment. The following was written by Henry "Sarge" Old Horn, a soil conservation technician at the SCS field office in Hardin, Montana.

Native Americans believe we were created by a higher power only to play an insignificant role in a cycle of natural elements called Mother Nature.

However, in this role, we have the ability to reason, to think, and to solve problems. As part of creation, Native Americans use only what they need for survival. They are farmers, hunters, nut and berry gatherers, philosophers, healers, warriors, and whatever else is needed to make their society function. All of these activities are based on the belief that a higher power created us to respect our environment.

Historically, the Native American used many plants and herbs to heal diseases, to mend broken bones, and to treat other medically related physical and mental problems. Many of these remedies have been recognized and adopted into the pharmacopoeia



Henry Old Horn

of modern medicine of the United States.

Soil conservation literature lists the Native American contribution to the food consumed in our daily diets. Books and encyclopedias catalog the foods and diets that were developed.

Native Americans believe they have been conditioned by laws, written and unwritten, that are enforced by the higher power or creator. They believe that this higher power will punish us if we abuse our environment (people, plants, water, birds, animals, reptiles, soil). Thus, they are prepared to protect our environment.

Show-and-Tell Targets Iowa Producers

"PUBLIC information is a powerful tool to help get conservation on the land, and it can sometimes reduce the workload."

These are the words of Don McKibben, chairman of the Marshall Soil and Water Conservation District in Iowa.

"With the number of landowners in our county, and the backlog of requests for technical assistance, the district staff could never do the job without public information outreach," said McKibben. The Marshall district has 1,500 farmers tilling more than 225,000 acres of highly erodible cropland on 3,000 tracts.

Marvin Brown, Soil Conservation Service district conservationist, said that because of the Food Security Act all information efforts

have had to be intensified. "We have to be precise in those efforts, too," he said. "We focus on who needs to do what conservation practices when, then we get the needed information to them."

"We are using a four-level show-and-tell system to demonstrate conservation practices and train producers to do some of their own technical tasks," said McKibben.

"The same methods could be adopted by any conservation district to help producers meet conservation compliance requirements of the farm bill."

The levels listed by McKibben are:

- **The newsletter.** "The newsletter is our direct link to cooperators," stressed McKibben. "We control the content, and we can make certain that information about the farm bill or conservation innovations gets in every cooperator's mailbox."

- **Onfarm miniseminars.** "District officials invite neighboring farmers to their own farms for hands-on training on how to measure residue or do other conservation tasks," McKibben said. "These onfarm miniseminars utilize per-

son-to-person training and have been highly effective."

- **Demonstration plots.** "In 1989, the district received permission from county officials to use county-owned land for conservation demonstrations," explained McKibben. "We installed strips comparing no-till with strips tilled in other ways. Producers can come here and see these practices before trying them on their own fields. We will have yield data for producers, so they can see that many conservation practices do not require a financial sacrifice."

- **Video training tapes.** "We bought 200 video tapes that train farmers to do some of their own conservation layout and other technical jobs, then sold the tapes at a reduced cost. These are being heavily used, with the effect of reducing demands on our technical staff."

McKibben emphasized that the four "levels" are in addition to conventional public information released through local news outlets.

He added that even the monthly meeting could be called a communication method.

"We invite representatives of all farm groups and agriculture agencies to attend and participate. The idea exchange is great, and everyone in the agricultural community becomes a partner in carrying out the conservation mission," said McKibben.

"The bottom line of all this public information is stopping erosion, getting more conservation on the land," McKibben said.

Claude Crowley, former public affairs specialist, South National Technical Center, SCS, Fort Worth, Tex.



Marshall, Iowa, Soil and Water Conservation District members discuss local agricultural issues. Representatives of county agricultural agencies are invited to attend and participate. (Lynn Betts photo)

'The tour is just a start...It makes sense to talk to each other, learn how we can help one another. That way, we all win.'

New Jersey Tour Merges Agriculture, Environment

“WE ARE ALL in this together” was the underlying theme of New

Jersey's second annual conservation tour for environmental leaders.

Conservation agencies in New Jersey held a 1-day bus tour of conservation practices that showcased technology and creative recycling in Burlington and Atlantic Counties.

The October 1990 tour wound through cranberry bogs, developments, and agricultural land. Approximately 30 attendees gained a greater understanding of the conservation family: the Soil Conservation Service, the State Soil Conservation Committee (part of the State Department of Agriculture), the New Jersey Association of Conservation Districts, and the Burlington and Cape-Atlantic Conservation Districts, who all sponsored the tour.

Attendees included county planning board members, heads of environmental organizations, and representatives from cooperating State agencies.

Tour leaders carefully selected stops on the tour to show a variety of traditional and innovative prac-



The cranberry bogs were a big hit with participants on the second annual conservation tour in New Jersey. (SCS photo)

tices. Many of these were on farms that received cost-sharing funds from the Agricultural Stabilization and Conservation Service's Agricultural Conservation Program or were in the State's Farmland Preservation Program.

The Durr family's 1,750-acre grain farm in Chesterfield was featured. The Durrs practice spreading vegetative waste like cranberry hulls and prune and apricot pits on their fields.

At the Haines Farm in Chatsworth, a representative from a cranberry distributor discussed integrated pest management, pesticide monitoring, food safety, and water quality in cranberry farming.

On a blueberry farm, Mill Rock Farms, in Hammonton, environmental leaders learned how a new computer-assisted weather station helps schedule irrigation. The station, the first in the State, helps improve water quality and cuts down the amount of irrigation the farmers use.

At Tuckahoe Turf Farm in Hammonton, composted sludge mixed with wood chips is used to enrich the soil on one parcel of sandy soil.

Attendees also toured several soil erosion and sediment control projects that the districts oversee as part of State legislation. These included residential and professional developments, a soil mining operation, and a highway bypass.

The original idea for the tour came from New Jersey's State conservationist Barbara T. Osgood, who said, "The tour is just a start. Our State and others have so many pressing environmental and agricultural concerns—and they tie so closely together. It just makes sense to talk to each other, learn how we can help one another. That way, we all win."

Linda Feldman, public affairs specialist, SCS, Somerset, N.J.

Trees will reduce the velocity of winter winds, and snow will blanket lowbush blueberry plants, protecting tender buds from the cold.

Windbreaks Protect Blueberries Down East

SUNRISE IN Washington County, Maine, ushers in a new day for the entire country. This eastern-most county in the United States is well known for its rugged coastline, quaint fishing villages, lobsters...and wild blueberries.

"Maine is the largest producer of wild blueberries in the United States with an average crop of 40 million pounds. Washington County supplies about 60 percent of the total," said Tom Rush, manager of Cherryfield Foods, one of the largest producers in the State.

When it comes to better berries, Cherryfield Foods heads for the woods. This company was the first in Washington County to recognize the benefits of using rows of trees as a windbreak to increase yields and improve the quality of its berries.

With advice from the Soil Conservation Service and from grow-

ers in Nova Scotia, the blueberry company sought to determine what softwood trees would grow well on sandy soils. The company researched insect and disease problems and growth rates of native conifers before selecting red pine.

Trees will reduce the velocity of winter winds, and snow will blanket lowbush blueberry plants, protecting tender buds from the cold.

The majority of Maine's wild blueberries are grown on "barrens," large open fields of sandy soil deposited as an underwater



marine delta during the glaciers. Winds whip across these open lands. Drying winds and double-digit, below zero temperatures lead to winter killing of exposed buds, a major factor in reducing yields.

In 1989, yields in Washington County were reduced by 30 to 60 percent, due to winter kill.

Poor pollination is another major factor in reducing blueberry yields. Blueberries are primarily pollinated by bees, but bees cannot function effectively when wind exceeds 10 to 15 miles per hour.

"Although we were mainly interested in reducing winter kill, we were sure pleased when we saw how much more bee activity there was in areas protected from wind," explained Rush as he discussed red pine first planted in 1983. Two staggered rows, 300 feet apart, work effectively.

While red pine has performed well, conifers grow slowly and have dense foliage. Fast growth and moderately dense foliage are more desirable for wind protection and even distribution of snow. Alternative plantings of imperial Carolina poplar during May 1989 appear promising, even though first-year mortality was high. Other species are planned for future testing.

"We have planted more than 70,000 trees and plan to plant all of our land in coming years, even though we live in the most heavily forested State in the Union. But, we have seen the benefits of windbreaks and are convinced that they work," said Rush.

James Spielman, forester, SCS, Durham, N.H., and **Charles Mitchell**, district conservationist, SCS, Machias, Maine

Conservation Tillage Helps Landowners

PRACTICES such as conservation tillage are proving to landowners nationwide that conservation and profits can go hand in hand even in tight economic times.

Capital Agricultural Property Services (CAPS), one of the largest managers of cropland nationwide, is a proponent of conservation tillage and other conservation practices. The company has more than a half million acres under its management.

"Most properties we manage are for absentee landowners," CAPS

President Ray Brownfield said. "Their knowledge of agriculture ranges from limited to the familiarity of persons who were born and raised on farms. We have to educate tenants and landowners regarding the latest conservation practices and encourage them to implement these practices gradually."

A recent survey of 200 Midwest CAPS farms showed that 82 percent utilize at least one conservation tillage program plus several other conservation practices.

"Conservation is long term in nature, and it may not pay right away, but we have proven that it does pay. It pays in actual conservation of soil that equates to sustained good yields," Brownfield said.

The Oakbrook Terrace, Ill.-based company offers a variety of educational programs to owners

and tenants of the 339 farms and ranches it manages in 30 States. Programs include workshops on conservation tillage and crop management as well as proper handling and disposal of chemical containers used in crop production.

Economically sound conservation practices and prudent use of natural resources are paramount in CAPS' philosophy. Through proper management of agricultural resources, profitable production can be achieved and natural resources can be conserved.

A significant number of properties are owned in trust by banks or have been bought as investments by individuals or larger investors. The investors show a particular concern for the profit margin and a desire to maintain the land by implementing conservation practices.

Cropland owners and tenants are in business because their farms are profitable. CAPS shows that conservation and profit can meet at the bottom line.

David Pauli, public information specialist, SCS, Champaign, Ill.

Capital Agricultural Property Services (CAPS), one of the largest managers of cropland nationwide, is a proponent of conservation tillage and other conservation practices. (Lynn Betts photo)



New Projects Planned for Water Quality

The U.S. Department of Agriculture (USDA) has designated 45 new projects in 34 States in fiscal year 1991 to accelerate improvement of water quality in agricultural areas. The 5-year projects will be implemented under the leadership of USDA's Soil Conservation Service, Extension Service, and Agricultural Stabilization and Conservation Service.

Of the 45 new projects, 8 will provide onfarm assistance to farmers under the administration's water quality initiative. The goal is to accelerate adoption of water quality technology in these project areas and to gain experience that will be useful in extending program activities into other areas.

The remaining 37 projects are designed to make specific improvements in water quality in selected agricultural watersheds. The goal is to provide farmers and ranchers with the educational, technical, and financial means to respond voluntarily to onfarm and offsite environmental concerns and related State water quality requirements.

The project selections, based on State requests, were made by the Education and Technical Assistance Committee of USDA's Water Quality Working Group. The committee includes representatives from eight USDA agencies as well as the Environmental Protection

Agency, the National Oceanic and Atmospheric Administration, and the U.S. Geological Survey. The National Association of Conservation Districts and the National Association of Soil Conservation Administrators were asked to comment during the selection process.

Conservation Rewarded

Involvement in farmland conservation is increasing and the Nation's agriculture is displaying the rewards.

The American Farmland Trust (AFT) recently honored individuals and organizations that have made outstanding contributions to protect U.S. agricultural resources. At the annual meeting of the AFT's board of directors, AFT President Ralph Grossi and Chairman of the Board Patrick Noonan made the presentations in the name of conservation.

In its seventh year, the AFT Agricultural Conservation Awards have recognized winners on the national, State, and local levels. Winners are:

National Policy and Program Development—Senator Patrick J. Leahy of Vermont and Congressman Peter H. Kostmayer of Pennsylvania for introducing and gathering support for the Farms for the Future Act.

State Policy and Program Development—Former Maryland State Senator James Clark, Jr., Howard

County dairy farmer, for assistance with the Maryland Agricultural Land Preservation Program.

Local Policy and Program Development—Suffolk County (N.Y.) Farmland Preservation Program.

State Model Land Protection Project—Illinois Department of Energy and Natural Resources.

Model Land Protection Project (Individual Effort)—Alberta Lewallen, of Calaveras County, Calif., for leadership in private conservation efforts.

Model Land Protection Project (Organizational Effort)—Adirondack Land Trust of New York.

National Public Education—Soybean Digest, St. Louis, Mo., for supplements on the 1985 farm bill's Conservation Compliance provisions.

Local Public Education—Loma Vista (Calif.) Farm and Garden Center for an outdoor education program.

"We think it's very important to recognize the dedication and enthusiasm shown by our award winners," said Grossi. "We hope their efforts will serve both as a role model and as encouragement for others who care deeply about the future of our agricultural resources."

The 1990 AFT Agricultural Conservation Awards were sponsored in part by a grant from Kraft General Foods, Inc.

AFT, which was founded in 1980, is the only national, nonprofit, membership organization dedicated solely to protecting Ameri-

can farmland. AFT emphasizes environment-wise farming practices and fights to stop the loss of productive farmland in the United States.

Alyssa DeVito, public affairs specialist intern, SCS, Storrs, Conn.

PICA Links SCS To Volunteers

In Mississippi, PICA is not just a unit of measurement. It is also a networking group that has enabled the Soil Conservation Service to benefit from a number of volunteers.

PICA stands for Public Information Council for Agriculture, a group whose members are employed in ag-related public affairs positions in government, private industry, and nonprofit organizations.

Chuck Jepsen, SCS public affairs specialist and PICA member in Jackson, Miss., was asked by a fellow PICA member to speak to an art class at Moore Career College in Jackson. The students wanted an opportunity to provide a client with a finished graphic arts product.

Jepsen accepted the invitation and gave the class an assignment—to each develop a poster. The winning poster would be used to publicize an environmental education exhibit at the Mississippi State Fair.

PICA members obtained an exhibit building for a centralized en-



Instructor Tanya Fitzgerald, center, discusses the elements of design for SCS project with college students in Jackson, Ala. (Chuck Jepsen photo)

vironmental education display at the fair. Organizations including SCS, the USDA Forest Service, the U.S. Army Corps of Engineers, the Mississippi Soil and Water Conservation Commission, the Mississippi Natural Science Museum, the Mississippi Wildlife Federation, and the Keep Jackson Beautiful Committee provided exhibits and information for the 14-day event in October 1990.

The exhibit theme was "The Earth Is Ours to Keep." Carolyn Merchant's poster entry depicting two hands gently cupped and holding the Earth was chosen as the winner. The students volunteered more than 300 hours to the project.

"The students were doubly pleased with this—their first printed piece," said instructor Tanya Fitzgerald. "In addition to meeting a deadline and satisfying a customer, they learned more about and became more involved in the

conservation effort and the need to leave this place better than they found it."

The poster was printed in 5,000 flyers, which were distributed to area schools. The response was overwhelming.

"More than 570,000 people attended the State Fair this year," Jepsen said, "and we believe more than half of those people visited the environmental education building. We had planned on closing it each night around 8 o'clock but the demand to see the exhibits was so great, we had to keep it open until 10."

The class has also volunteered to work on a similar project later this spring, and Jepsen is grateful to PICA for directing SCS to such eager volunteers.

Diana Monroe, public affairs specialist intern, SCS, Jackson, Miss.

Ministories Teach Students About Soil

The Soil Conservation Service in Minnesota was part of a multiagency group that worked with WCCO-TV in Minneapolis on educating fifth and sixth graders about soil.

SCS, in cooperation with the Minnesota Association of Soil and Water Conservation Districts, Minnesota Extension Service, and the Minnesota Department of Natural Resources Forestry Division, worked with the WCCO meteorological department to produce 10 different 2-minute video ministories about soil. The group also developed questions for students about each ministory.

Elementary students watched the ministory at home, answered the questions about each ministory, and then discussed the ministory and answers with their teachers during the next schoolday.

WCCO-TV broadcasted the ministories during its 5 p.m. newscasts in November 1990.

WCCO provides free copies of the soil series to anyone who provides a blank videotape.

The group also developed a

poster titled "Soil 4 Ever." A copy of the poster was sent to every elementary school in Minnesota.

This cooperative effort promotes soil study at a time when soil is the theme of the Minnesota Association of Soil and Water Conservation Districts' 1991 Elementary/Junior High Poster and Essay Contest.

The effort also supplements a 172-page "Project Stewardship Minnesota" curriculum that SCS helped develop. The curriculum contains environmental teaching activities about soil, water, forestry, and other environmental concerns for teachers in science, agriculture education, social studies, and language arts for grades 6 through 12.

Teacher training workshops on this curriculum are in progress.

Mary Peterson, public affairs specialist intern, SCS, Lakewood, Colo.

Climatic Data Available

The Climatic Data Access Facility (CDAF) is the Soil Conservation Service's newest national service. Located at the West National Technical Center in Portland, Oreg., this office provides climatic data infor-

mation and analyses to support and increase efficiency in conservation planning and application.

CDAF obtains climatic data from various sources such as the U.S. Geological Survey, Bureau of Reclamation, the National Weather Service, and regional climate centers.

The first tasks of the CDAF include: providing climate data necessary to run computer models such as the Water Erosion Prediction Project (WEPP), evaluating existing sources of climatic data and services that will meet SCS needs, enhancing SCS employees' working knowledge of climatic data, and providing climatic data for a computer module that provides field offices with several climate products (such as frost-free days and growing-degree days).

CDAF provides information materials that include: Liaisons Reference Guide to Obtaining and Using Climatic Information, Field Office Guide to Interpreting Climatic Data, temperature and precipitation summary tables, and listings and maps of climatological stations.

The CDAF staff works with climatic data liaisons at the four national technical centers and with the recently designated State climatic data liaisons.

Amber Waves of Grain

Photographed by Georg Gerster
Produced in collaboration with the American Farmland Trust

In a tribute to American agriculture, noted aerial photographer Georg Gerster has produced a unique photo essay.

In this new angle to conservation of the land, Gerster takes the

viewer into the sky with him as he explores America's farmland. His aerial photos offer an unusual look at the diversity of the land and the dedication of America's farmers.

Spending some 1,000 hours in the air, he explored the United States as he searched for the beauty and individuality of each agricultural region. Gerster unravels the hidden colors and textures of a land as diverse as it is wide.

This book contains over 230 full-

color photos illustrating the national importance of agriculture and the farmer's commitment to the land.

It includes an introduction by Garrison Keillor, American Farmland Trust board member and American storyteller.

The book is available for \$50 plus \$5 postage and handling from the American Farmland Trust, 1920 N Street, NW., Suite 400, Washington, DC 20036.

Starting a Land Trust: A Guide to Forming a Land Conservation Organization

By The Land Trust Alliance

Are you interested in protecting the endangered lands in your community?

Starting a Land Trust, from The Land Trust Alliance, provides the reader with the basic steps and tools needed to get a land-saving effort underway. Readers can apply the land trust concept to the land within their own communities.

This focused, practical guide is based on the experience of successful land trusts from around the country. It provides an overview of what is needed to start the organization and to maintain it early in

its production. This book will help to turn creative ideas into action.

Included are a list of additional contacts, other resources, and sample documents from successful land trusts across the country.

This publication is available for \$15 postpaid from The Land Trust Alliance, 900 17th Street, NW., Suite 410, Washington, DC 20006-1408.

Microcomputers on the Farm: Getting Started

by Duane E. Erickson, Royce A. Hinton, Ronald D. Szoke

Modern commercial farming increasingly requires more than just the farmer's ability to maintain farm operations. Computers are becoming a necessity on the land.

Microcomputers on the Farm can help farmers and ranchers to decide what type of system would best suit their needs. It presents the essentials of acquiring and using a computer in agricultural operations. Successful farm operators are incorporating computers into their routines and decisionmaking. As an essential part of agricultural operations, computers are able to organize information for accounting, planning, and inventory control.

The authors explain computer terminology and list hardware and software packages that benefit farm operators.

The 108-page paperback costs \$9.95 plus \$2 postage and is available from Iowa State University Press, 2121 South State Avenue, Ames, IA 50010. Phone orders, 515/292-0155.

New in Print was prepared by Alyssa DeVito, public affairs specialist intern, SCS, Storrs, Conn.

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Conservation Calendar

May	3-6	International Association of Fairs and Expositions 23rd Annual Spring Conference, Oklahoma City, Okla.
	6-12	Public Service Week
	13-17	RECLAMATION 2000: Technologies for Success, American Society for Surface Mining and Reclamation, Durango, Colo.
	30-June 1	Third Annual National Agricultural Biotechnology Council (NABC) Meeting, Sacramento, Calif.
June	16-20	World Aquaculture Conference and Exposition, San Juan, Puerto Rico
	18-20	Opportunities for Development and Conservation, International Ocean Technology Congress, Glasgow, Scotland
	23-26	American Society of Agricultural Engineers International Summer Meeting, Albuquerque, N. Mex.
	23-29	Fourth Annual Wildbranch Workshop In Outdoor, Natural History and Environmental Writing, Sterling College, Craftsbury Common, Vt.
	29-July 3	75th International Agricultural Communicators in Education Conference, Rapid City, S. Dak.
July	16-20	Izaak Walton League of America National Convention, Rapid City, S. Dak.
	21	American Society for Horticultural Science Annual Meeting, University Park, Pa.
August	4-7	Soil and Water Conservation Society 46th Meeting, Lexington, Ky.
	4-9	"Urban Runoff Effects on Receiving Systems: An Interdisciplinary Analysis of Impact, Monitoring and Management," Engineering Foundation, Crestedbutte, Colo.